

WHAT IS CLAIMED IS:

1. A method of performing financial processing in a computer, comprising:

(a) accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status; and

(b) performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, results from the amortization calculations, as well as one or more profit factors and one or more rules, wherein the profitability calculations comprise:

$$\begin{aligned}\text{Profit (a}_i\text{)} &= \text{Net Interest Revenue (NIR) (a}_i\text{)} \\ &+ \text{Other Revenue (OR) (a}_i\text{)} \\ &- \text{Direct Expense (DE) (a}_i\text{)} \\ &- \text{Indirect Expense (IE) (a}_i\text{)} \\ &- \text{Risk Provision (RP) (a}_i\text{)}.\end{aligned}$$

for an account a_i , wherein the profitability calculations include one or more amortization calculations in the computer using the account, event and organization attributes accessed from the database, and the amortization calculations amortize the Other Revenue, Direct Expense, Indirect Expense, or Risk Provision over a plurality of periods within a term for the account a_i .

2. The method of claim 1, wherein the amortization calculations are selected from a group comprising cash basis, straight-line, declining balance and interest methods.

3. The method of claim 2, wherein the straight-line method comprises calculating an Unamortized Amount and an Amortized Amount, such that:

if $k < n$, then:

$$\text{Amortized Amount} = \text{Adj.Amt}_1 + (k-1) * (\text{Amt}/n)$$

$$\text{Unamortized amount} = (n-k) * (\text{Amt}/n) + (\text{Amt}_1 - \text{Adj.Amt}_1)$$

if $k = n$, then:

$$\text{Amortized Amount} = \text{Amt}$$

Unamortized amount = 0

wherein:

n = number of terms in amortization period,
 k = number of terms elapsed since amortization began,
 5 such that $k = 1, \dots, n$,
 Amt = an initial amount to be amortized,
 Adj.Amt₁ = actual amount amortized in first period,
 Life(Amt) = number of amortization terms,
 AM_k(Amt) = amortization amount for term k, such that:
 10 = Amt if $k = 0$
 = $\frac{\text{Amt}}{\text{Life}}$ if $\text{life} \geq k \geq 1$
 = 0 if $k > \text{life}$.

4. The method of claim 2, wherein the declining balance method comprises
 15 calculating an Unamortized Amount and an Amortized Amount, such that:

$$\text{Amortized Amount} = k * (\text{Amt}_1 + \text{Amt}_k) / 2$$

$$\text{Unamortized Amount} = \text{Amt} - [k * (\text{Amt}_1 + \text{Amt}_k) / 2]$$

wherein:

20 n = number of terms in amortization period,
 k = number of terms elapsed since amortization began,
 such that $k = 1, \dots, n$,
 Amt₁ = amount amortized in a first amortization period, and
 Amt_k = amount amortized in period k.

25 5. The method of claim 2, wherein the declining balance method comprises
 calculating an Unamortized Amount and an Amortized Amount, such that:

$$\text{Amortized Amount} = k * (\text{Amt}_1 + \text{Amt}_k) / 2 - (\text{Amt}_1 - \text{Adj.Amt}_1)$$

$$\text{Unamortized Amount} = \text{Amt} - [k * (\text{Amt}_1 + \text{Amt}_k) / 2] + (\text{Amt}_1 - \text{Adj.Amt}_1)$$

wherein:

n = number of terms in amortization period,
 k = number of terms elapsed since amortization began,
 such that $k = 1, \dots, n$,
 Amt_1 = amount amortized in a first amortization period, and
 5 Amt_k = amount amortized in period k , and
 $Adj.Amt_1$ = actual amount amortized in a first period.

6. The method of claim 2, wherein the interest method comprises calculating an Unamortized Amount and an Amortized Amount, such that:

10
$$\text{Amortized Amount} = \left[\frac{Amt * r}{(1+r)^n - 1} * \frac{(1+r)^k - 1}{r} \right] + (Amt_1 - Adj.Amt_1)$$

$$\text{Unamortized Amount} = Amt - \left[\frac{Amt * r}{(1+r)^n - 1} * \frac{(1+r)^k - 1}{r} \right] + (Amt_1 - Adj.Amt_1)$$

wherein:

n = number of terms in amortization period,
 k = number of terms elapsed since amortization began,
 15 such that $k = 1, \dots, n$,
 r_a = annual interest rate,
 p = periodicity of update,
 r = period rate or r_a/p ,
 Amt = amount to be amortized,
 20 Amt_1 = amount amortized in a first amortization period, and
 $Adj.Amt_1$ = actual amount amortized in a first period.

7. A system for financial processing, comprising:

a computer;

25 logic, performed by the computer, for:

(a) accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes

comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status; and

(b) performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, results from the amortization calculations, as well as one or more profit factors and one or more rules, wherein the profitability calculations comprise:

$$\begin{aligned} \text{Profit (a}_i\text{)} &= \text{Net Interest Revenue (NIR) (a}_i\text{)} \\ &+ \text{Other Revenue (OR) (a}_i\text{)} \\ &- \text{Direct Expense (DE) (a}_i\text{)} \\ &- \text{Indirect Expense (IE) (a}_i\text{)} \\ &- \text{Risk Provision (RP) (a}_i\text{)}. \end{aligned}$$

for an account a_i , wherein the profitability calculations include one or more amortization calculations in the computer using the account, event and organization attributes accessed from the database, and the amortization calculations amortize the Other Revenue, Direct Expense, Indirect Expense, or Risk Provision over a plurality of periods within a term for the account a_i .

8. The system of claim 7, wherein the amortization calculations are selected from a group comprising cash basis, straight-line, declining balance and interest methods.

9. The system of claim 8, wherein the straight-line method comprises logic for calculating an Unamortized Amount and an Amortized Amount, such that:

if $k < n$, then:

$$\text{Amortized Amount} = \text{Adj.Amt}_1 + (k-1) * (\text{Amt}/n)$$

$$\text{Unamortized amount} = (n-k) * (\text{Amt}/n) + (\text{Amt}_1 - \text{Adj.Amt}_1)$$

if $k = n$, then:

$$\text{Amortized Amount} = \text{Amt}$$

$$\text{Unamortized amount} = 0$$

wherein:

$$n = \text{number of terms in amortization period,}$$

k = number of terms elapsed since amortization began,
 such that $k = 1, \dots, n$,
 Amt = an initial amount to be amortized,
 $Adj.Amt_1$ = actual amount amortized in first period,
 5 $Life(Amt)$ = number of amortization terms,
 $AM_k(Amt)$ = amortization amount for term k , such that:
 = Amt if $k = 0$
 = $\frac{Amt}{Life}$ if $life \geq k \geq 1$
 = 0 if $k > life$.

10

10. The system of claim 8, wherein the declining balance method comprises logic for calculating an Unamortized Amount and an Amortized Amount, such that:

$$\text{Amortized Amount} = k * (Amt_1 + Amt_k) / 2$$

$$\text{Unamortized Amount} = Amt - [k * (Amt_1 + Amt_k) / 2]$$

15 wherein:

n = number of terms in amortization period,
 k = number of terms elapsed since amortization began,
 such that $k = 1, \dots, n$,
 Amt_1 = amount amortized in a first amortization period, and
 20 Amt_k = amount amortized in period k .

11. The system of claim 8, wherein the declining balance method comprises logic for calculating an Unamortized Amount and an Amortized Amount, such that:

$$\text{Amortized Amount} = k * (Amt_1 + Amt_k) / 2 - (Amt_1 - Adj.Amt_1)$$

25 $\text{Unamortized Amount} = Amt - [k * (Amt_1 + Amt_k) / 2] + (Amt_1 - Adj.Amt_1)$

wherein:

n = number of terms in amortization period,
 k = number of terms elapsed since amortization began,
 such that $k = 1, \dots, n$,

Amt₁ = amount amortized in a first amortization period, and

Amt_k = amount amortized in period k, and

Adj.Amt₁ = actual amount amortized in a first period.

12. The system of claim 8, wherein the interest method comprises logic for calculating an Unamortized Amount and an Amortized Amount, such that:

$$\text{Amortized Amount} = \left[\frac{\text{Amt} * r}{(1+r)^n - 1} * \frac{(1+r)^k - 1}{r} \right] + (\text{Amt}_1 - \text{Adj. Amt}_1)$$

$$\text{Unamortized Amount} = \text{Amt} - \left[\frac{\text{Amt} * r}{(1+r)^n - 1} * \frac{(1+r)^k - 1}{r} \right] + (\text{Amt}_1 - \text{Adj.Amt}_1)$$

wherein:

10 n = number of terms in amortization period,

k = number of terms elapsed since amortization began,
such that $k = 1, \dots, n$,

$$r_a = \text{annual interest rate,}$$

p = periodicity of update,

15 $r =$ period rate or r_a/p ,

Amt = amount to be amortized,

Amt₁ = amount amortized in a first amortization period, and

Adj.Amt₁ = actual amount amortized in a first period.

20 13. An article of manufacture embodying logic for performing financial
processing in a computer, comprising:

(a) accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status; and

(b) performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, results from the

amortization calculations, as well as one or more profit factors and one or more rules,
wherein the profitability calculations comprise:

$$\begin{array}{rcl}
 \text{Profit (a}_i\text{)} & = & \text{Net Interest Revenue (NIR) (a}_i\text{)} \\
 & + & \text{Other Revenue (OR) (a}_i\text{)} \\
 5 \quad & - & \text{Direct Expense (DE) (a}_i\text{)} \\
 & - & \text{Indirect Expense (IE) (a}_i\text{)} \\
 & - & \text{Risk Provision (RP) (a}_i\text{)}.
 \end{array}$$

for an account a_i , wherein the profitability calculations include one or more amortization
calculations in the computer using the account, event and organization attributes accessed
10 from the database, and the amortization calculations amortize the Other Revenue, Direct
Expense, Indirect Expense, or Risk Provision over a plurality of periods within a term for
the account a_i .

14. The article of manufacture of claim 13, wherein the amortization calculations
15 are selected from a group comprising cash basis, straight-line, declining balance and interest
methods.

15. The article of manufacture of claim 14, wherein the straight-line method
comprises calculating an Unamortized Amount and an Amortized Amount, such that:

20 if $k < n$, then:

$$\text{Amortized Amount} = \text{Adj.Amt}_1 + (k-1) * (\text{Amt}/n)$$

$$\text{Unamortized amount} = (n-k) * (\text{Amt}/n) + (\text{Amt}_1 - \text{Adj.Amt}_1)$$

if $k = n$, then:

$$\text{Amortized Amount} = \text{Amt}$$

25 $\text{Unamortized amount} = 0$

wherein:

$$\begin{array}{rcl}
 n & = & \text{number of terms in amortization period,} \\
 k & = & \text{number of terms elapsed since amortization began,} \\
 & & \text{such that } k = 1, \dots, n, \\
 30 \quad \text{Amt} & = & \text{an initial amount to be amortized,} \\
 \text{Adj.Amt}_1 & = & \text{actual amount amortized in first period,}
 \end{array}$$

Life(Amt) = number of amortization terms,
 $AM_k(Amt)$ = amortization amount for term k, such that:
 = Amt if $k = 0$
 = $\frac{Amt}{Life}$ if $life \geq k \geq 1$
 5 = 0 if $k > life$.

16. The article of manufacture of claim 14, wherein the declining balance method comprises calculating an Unamortized Amount and an Amortized Amount, such that:

10 Amortized Amount = $k * (Amt_1 + Amt_k) / 2$
 Unamortized Amount = $Amt - [k * (Amt_1 + Amt_k) / 2]$

wherein:

n = number of terms in amortization period,
 k = number of terms elapsed since amortization began,
 15 such that $k = 1, \dots, n$,
 Amt_1 = amount amortized in a first amortization period, and
 Amt_k = amount amortized in period k.

17. The article of manufacture of claim 14, wherein the declining balance method comprises calculating an Unamortized Amount and an Amortized Amount, such that:

20 Amortized Amount = $k * (Amt_1 + Amt_k) / 2 - (Amt_1 - Adj.Amt_1)$
 Unamortized Amount = $Amt - [k * (Amt_1 + Amt_k) / 2] + (Amt_1 - Adj.Amt_1)$

wherein:

25 n = number of terms in amortization period,
 k = number of terms elapsed since amortization began,
 such that $k = 1, \dots, n$,
 Amt_1 = amount amortized in a first amortization period, and
 Amt_k = amount amortized in period k, and

THE **NEW** **YORK** **PUBLIC** **LIBRARY**

5

$$\text{Unamortized Amount} = \text{Amt} - \left[\frac{\text{Amt} * r}{(1+r)^n - 1} * \frac{(1+r)^k - 1}{r} \right] + (\text{Amt}_1 - \text{Adj.Amt}_1)$$

10

$$k = \text{number of terms elapsed since amortization began,}$$

such that $k = 1, \dots, n$,

p = periodicity of update,

$$r = \text{period rate or } r_a/p,$$

Amt = amount to be amortized,

15

Amt₁ = amount amortized in a first amortization period, and

Adj.Amt₁ = actual amount amortized in a first period.